

Fig. 1A

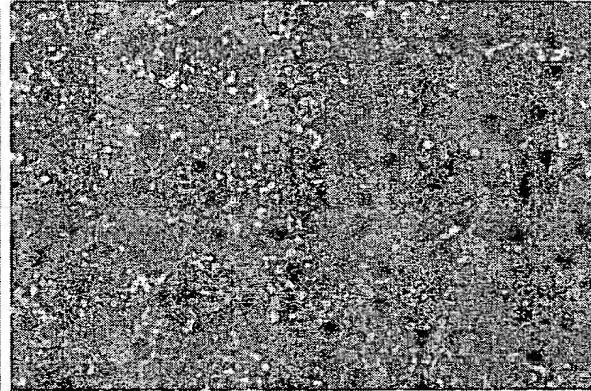


Fig. 1B

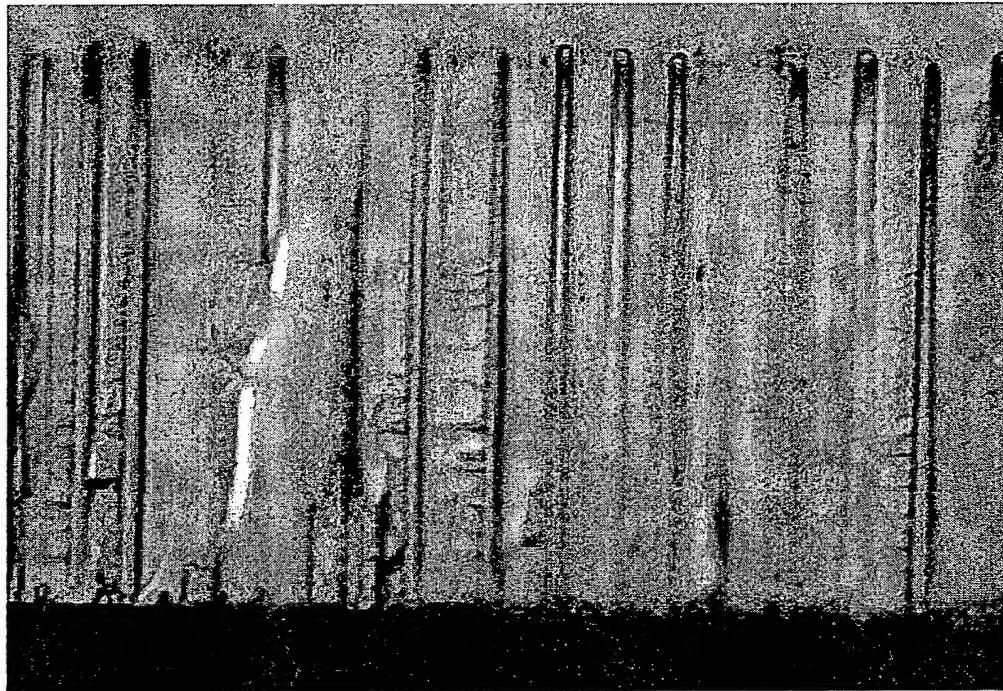


Fig. 2

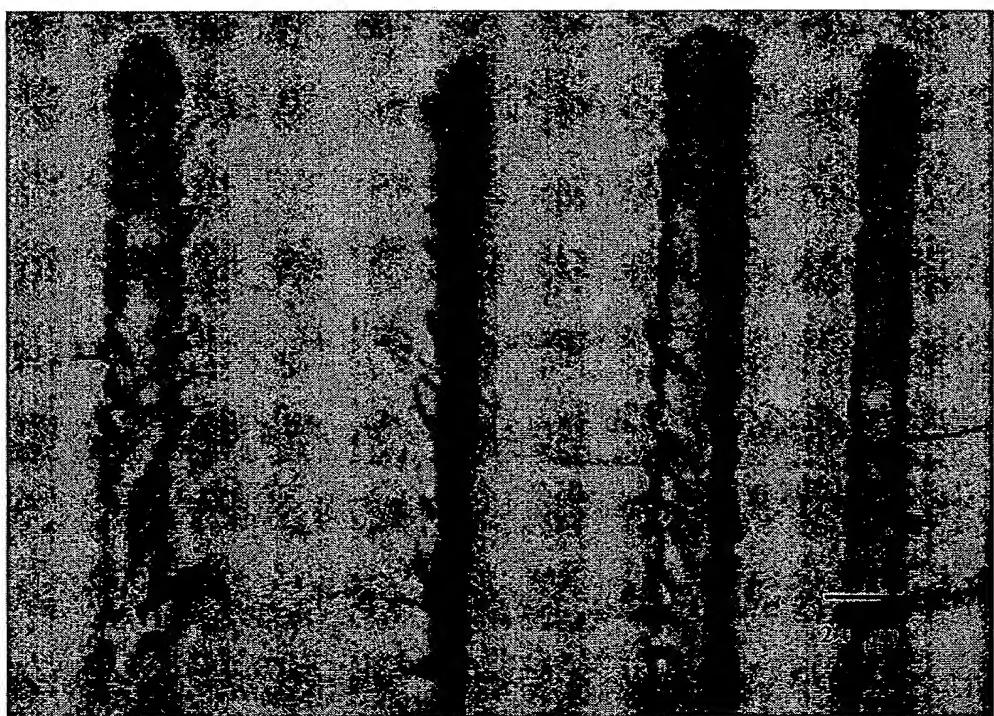


Fig. 3

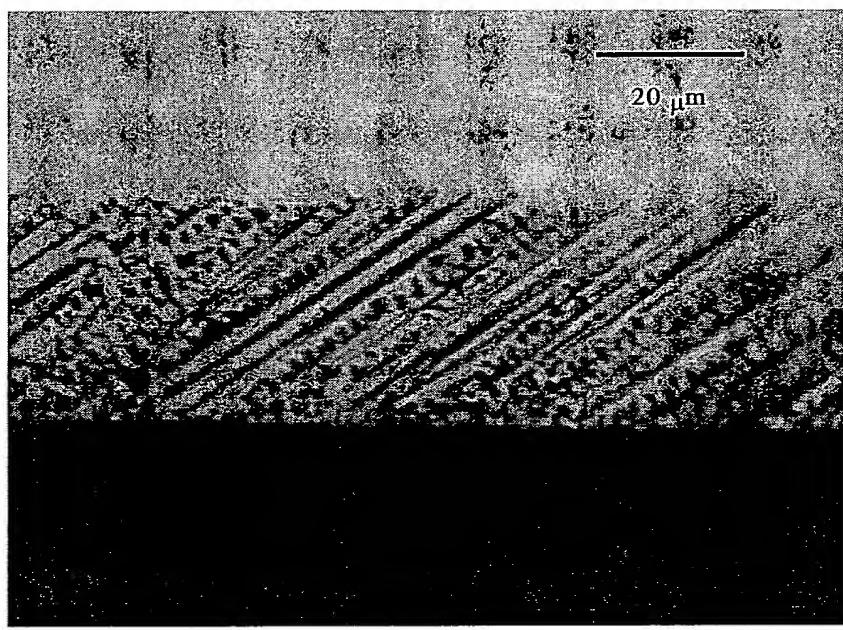


Fig. 4

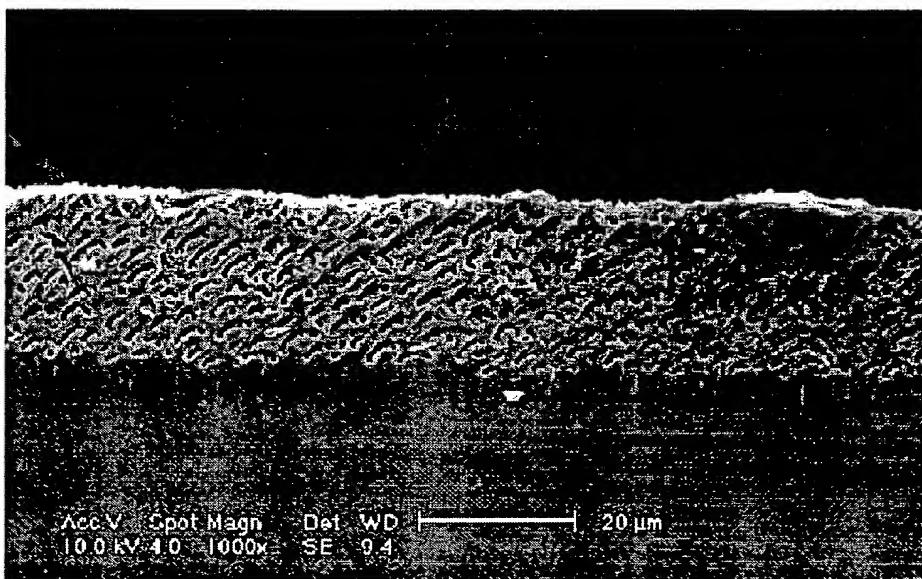


Fig. 5

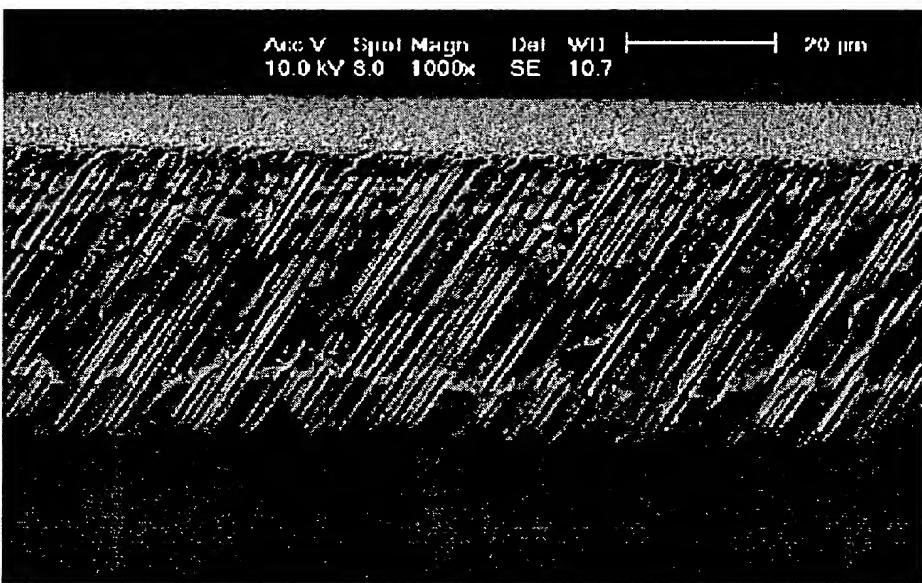
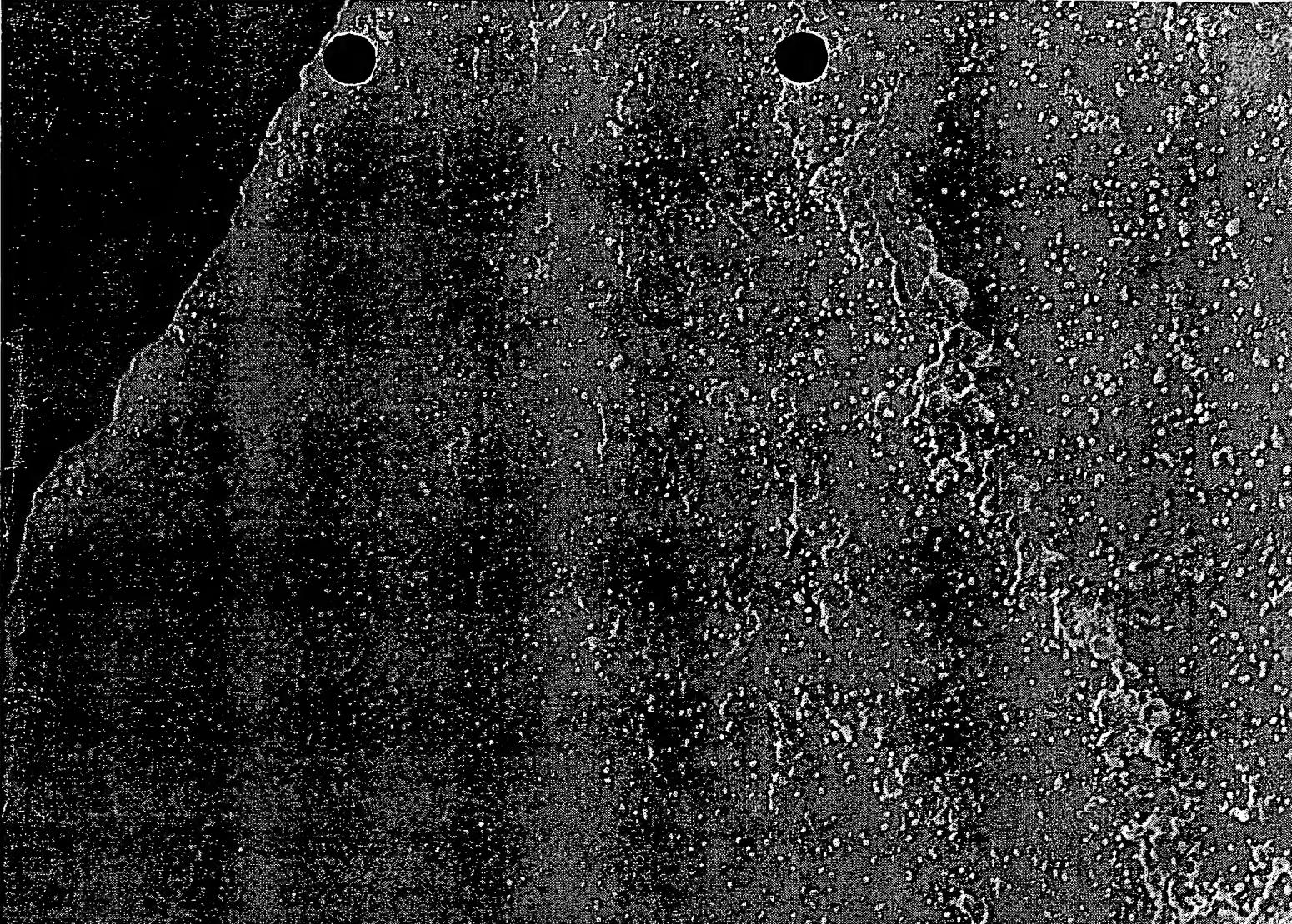


Fig. 6

09999796 - 04436011



010358-01 Neah Power 240x

— 200 μm —

010358

Fig. 7

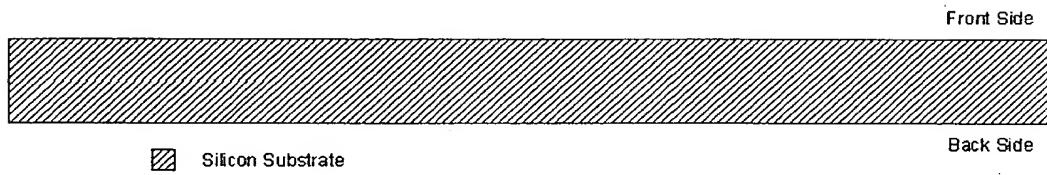


Figure 8

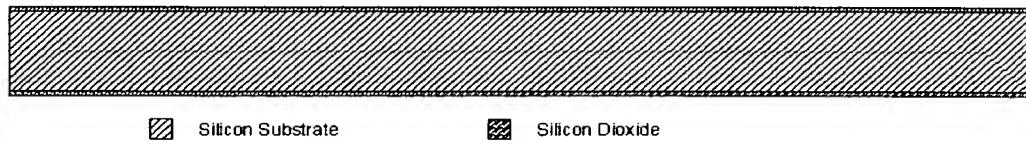


Figure 9

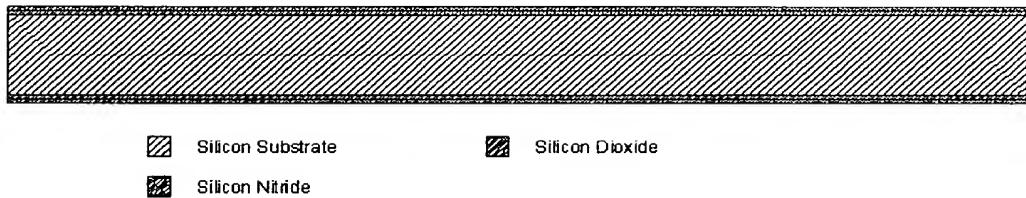


Figure 10

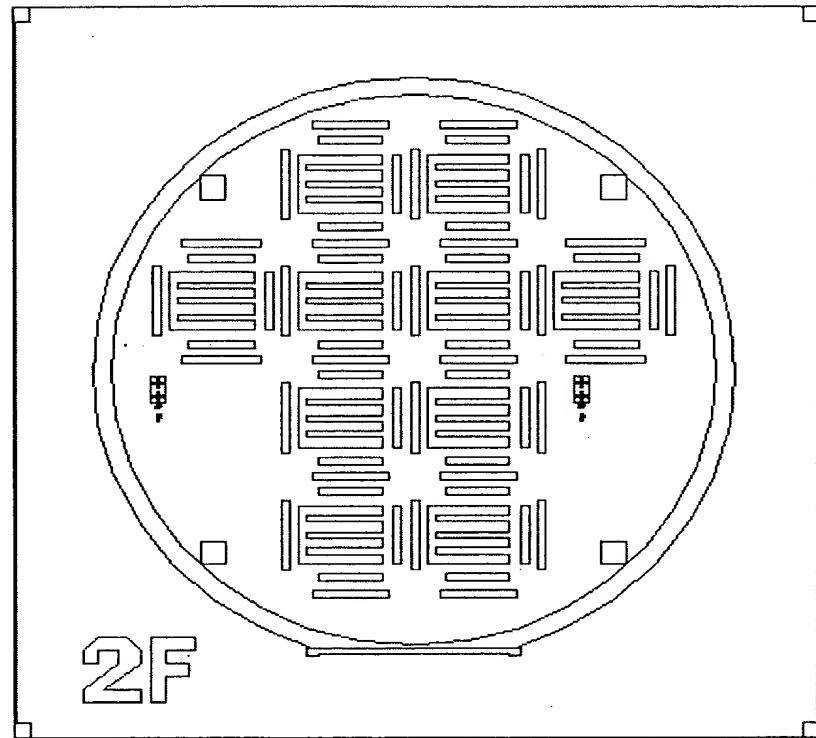


Figure 11A

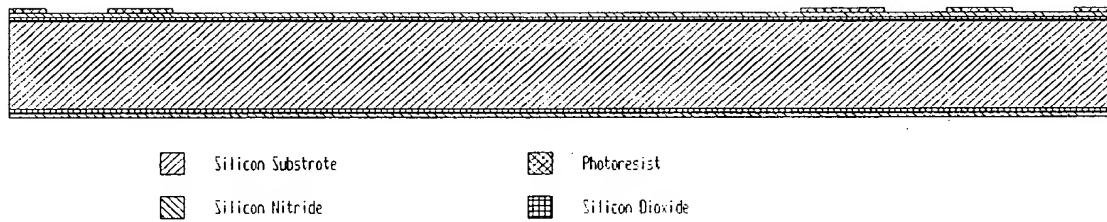
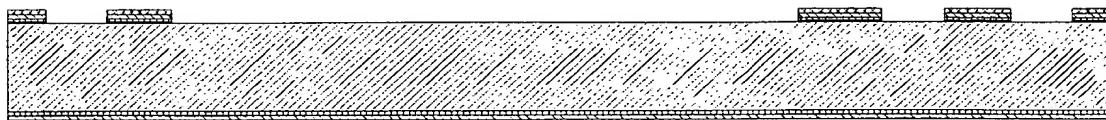


Figure 11B



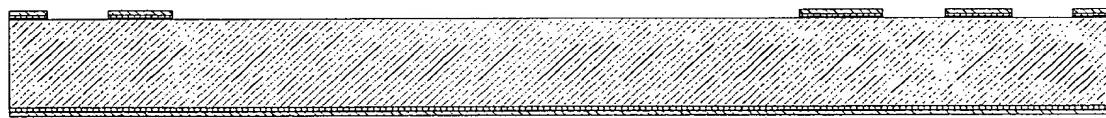
[diagonal hatching] Silicon Substrate

[vertical hatching] Silicon Nitride

[diagonal hatching] Photoresist

[vertical hatching] Silicon Dioxide

Figure 12



[diagonal hatching] Silicon Substrate

[vertical hatching] Silicon Nitride

[vertical hatching] Silicon Dioxide

Figure 13

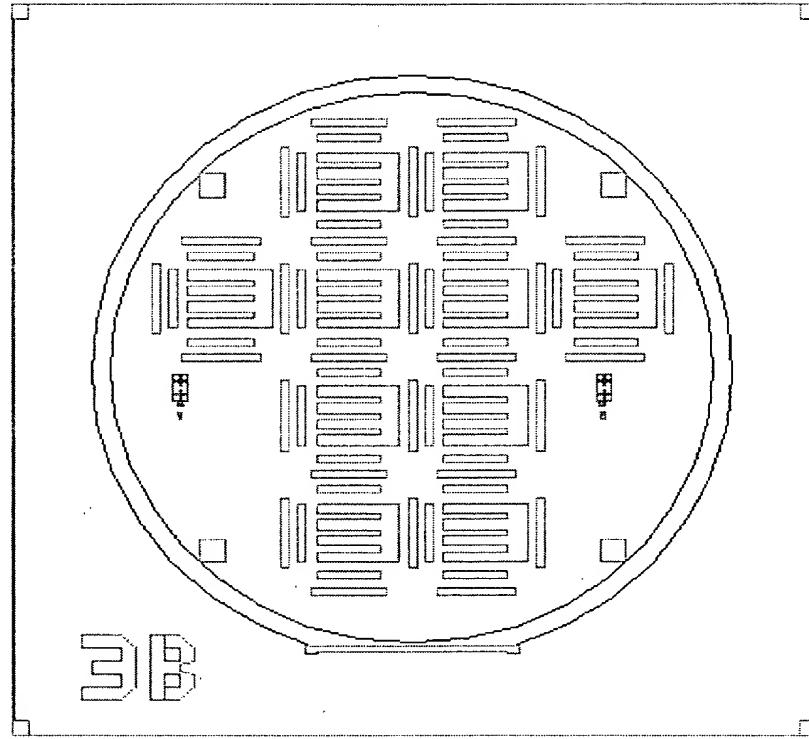


Figure 14A

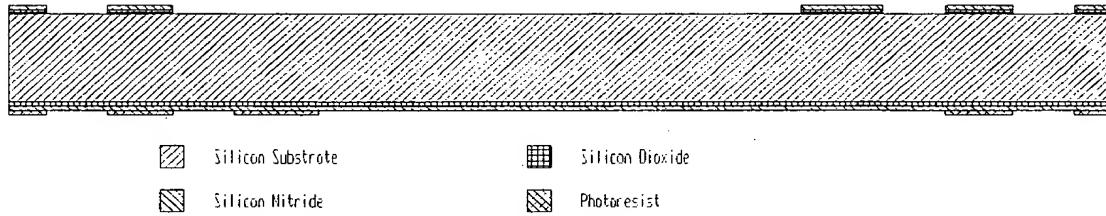
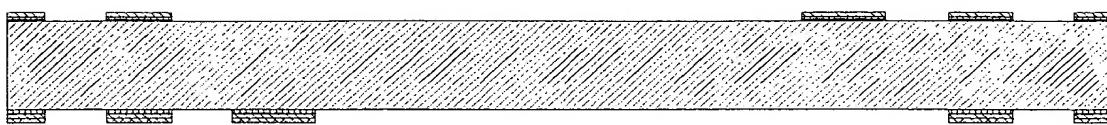


Figure 14B



■ Silicon Substrate
■ Silicon Nitride

■ Silicon Dioxide
■ Photoresist

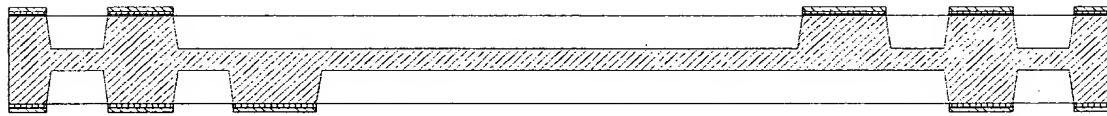
Figure 15



■ Silicon Substrate
■ Silicon Nitride

■ Silicon Dioxide

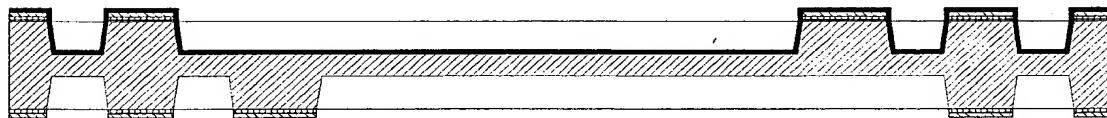
Figure 16



■ Silicon Substrate
■ Silicon Nitride

■ Silicon Dioxide
□ Flow Channel

Figure 17



■ Silicon Substrate
■ Silicon Nitride
■ Ti-W-Au

■ Silicon Dioxide
□ Flow Channel

Figure 18

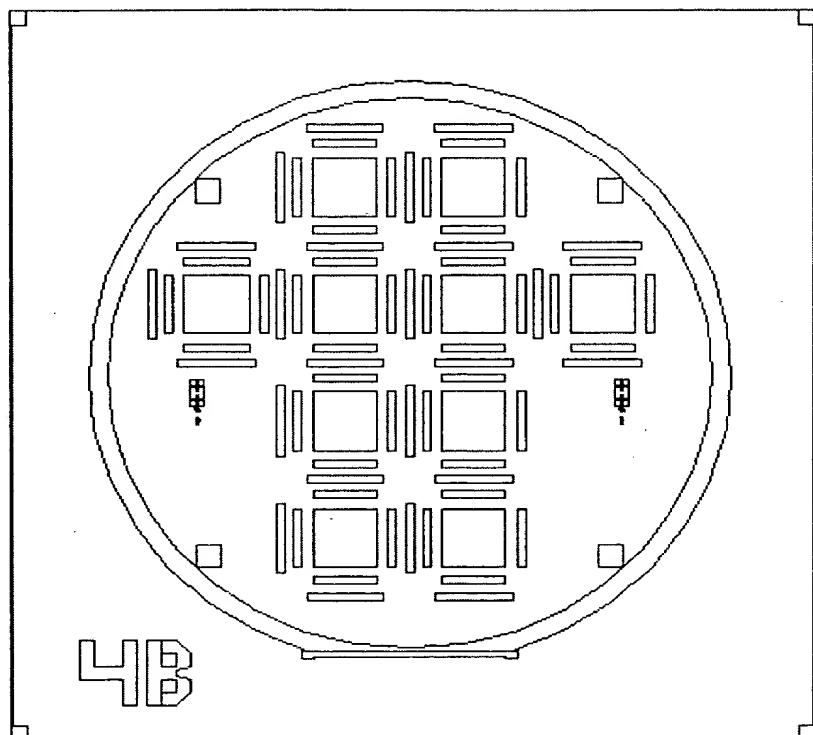
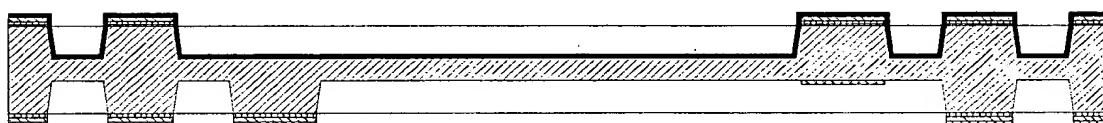
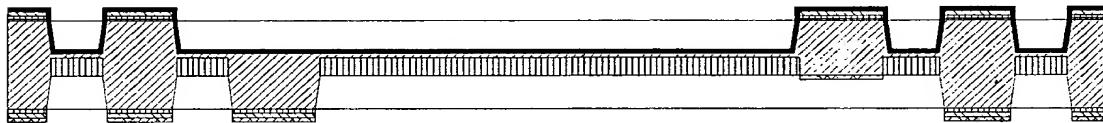


Figure 19A



[Hatched Box] Silicon Substrate	[Cross-hatched Box] Silicon Dioxide
[Diagonal-hatched Box] Silicon Nitride	[White Box] Flow Channel
[Solid Black Box] Ti-W:Au	[Cross-hatched Box] Photoresist

Figure 19B



[Hatched Box] Silicon Substrate	[Cross-hatched Box] Silicon Dioxide
[Diagonal-hatched Box] Silicon Nitride	[White Box] Flow Channel
[Solid Black Box] Ti-W:Au	[Cross-hatched Box] Photoresist
[Vertical-hatched Box] Ti-W:Au	

Figure 20

00287984400 - 0028798500

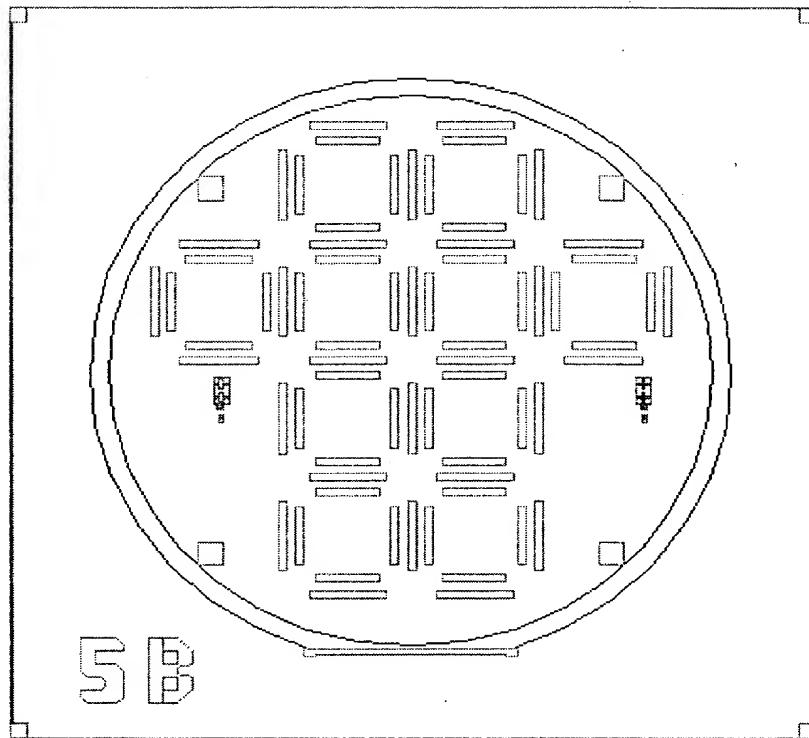


Figure 21A

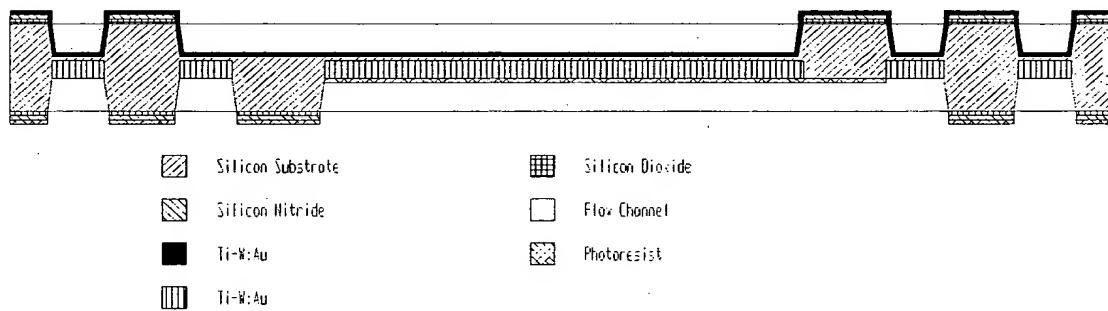
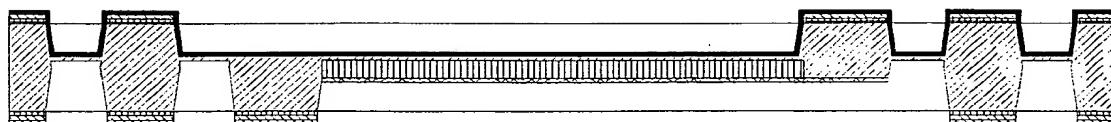
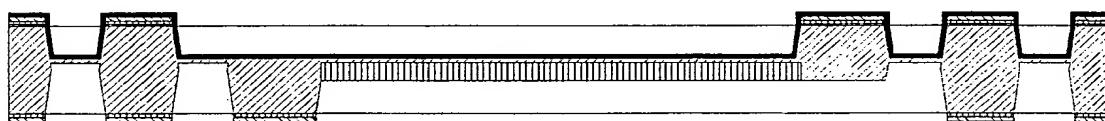


Figure 21B



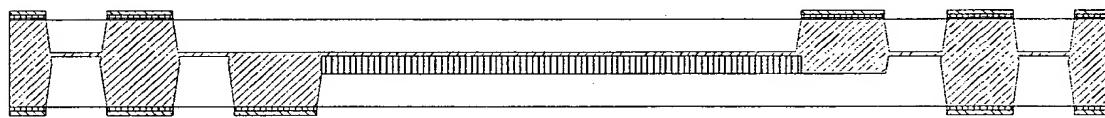
[diagonal hatching]	Silicon Substrate	[cross-hatching]	Silicon Dioxide
[diagonal hatching]	Silicon Nitride	[white]	Flex Channel
[solid black]	Ti-W-Au	[cross-hatching]	Photoresist
[vertical hatching]	Porous Silicon		

Figure 22



[diagonal hatching]	Silicon Substrate	[cross-hatching]	Silicon Dioxide
[diagonal hatching]	Silicon Nitride	[white]	Flex Channel
[solid black]	Ti-W-Au	[vertical hatching]	Porous Silicon

Figure 23



[diagonal hatching]	Silicon Substrate	[cross-hatching]	Silicon Dioxide
[diagonal hatching]	Silicon Nitride	[white]	Flex Channel
[vertical hatching]	Porous Silicon		

Figure 24

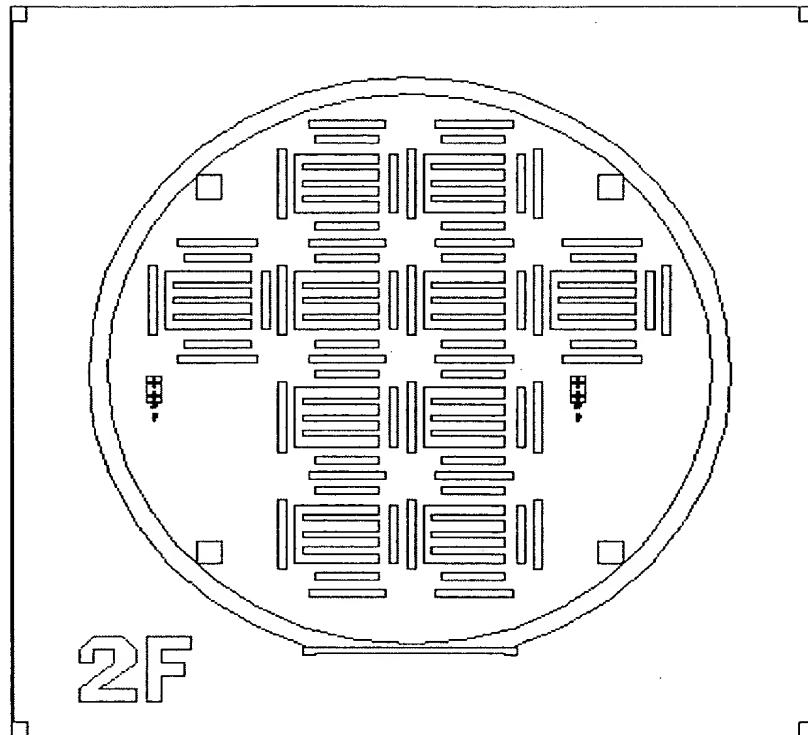


Figure 25A

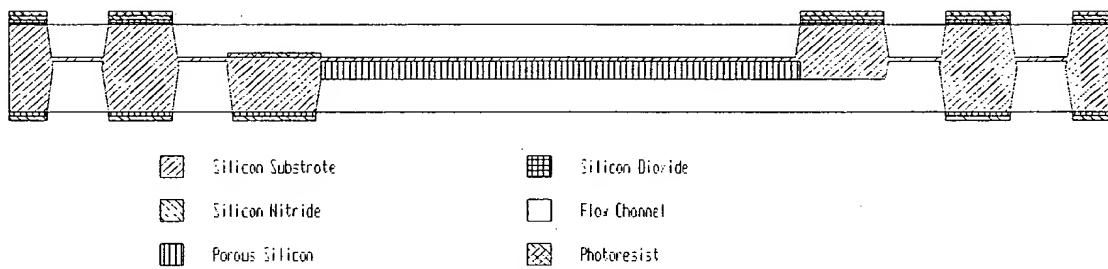


Figure 25B

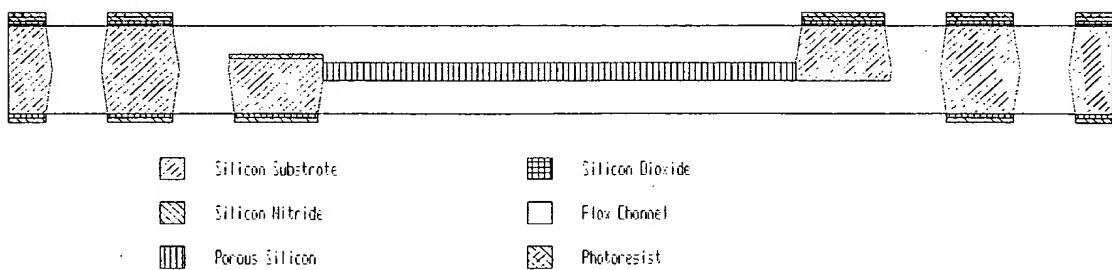


Figure 26

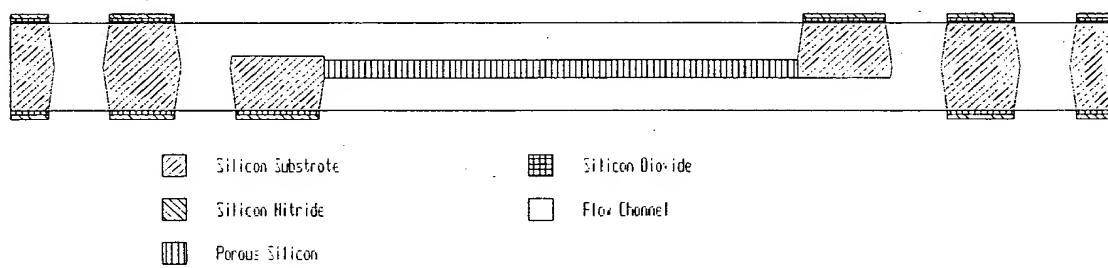


Figure 24

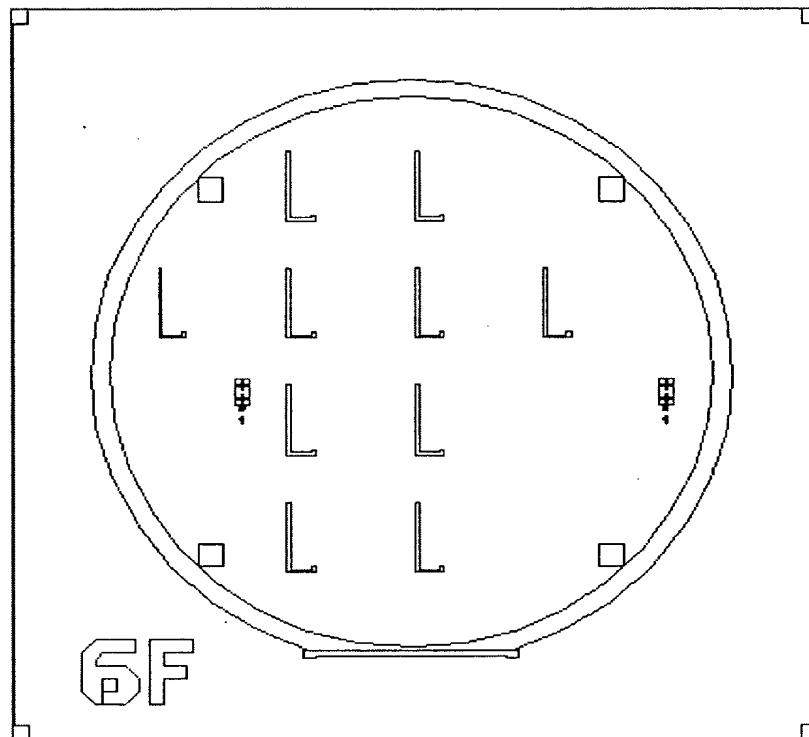


Figure 28A

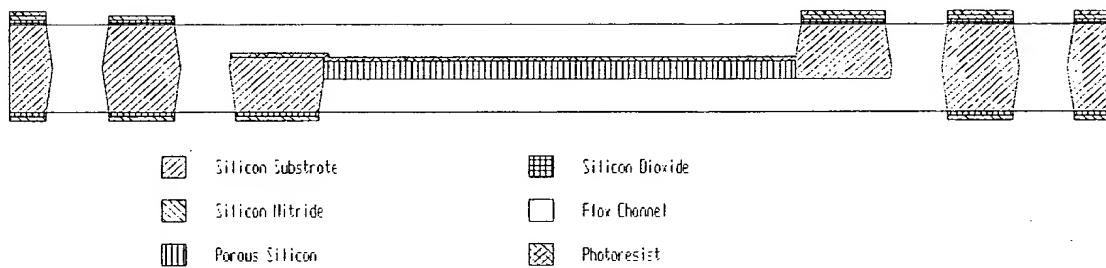
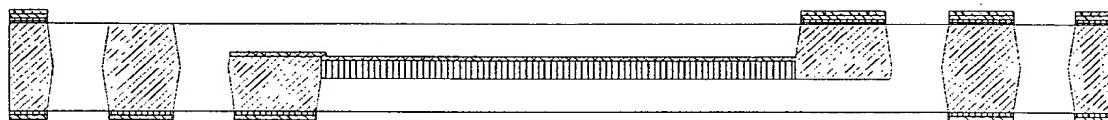
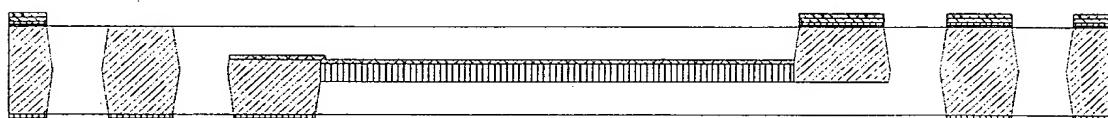


Figure 28B



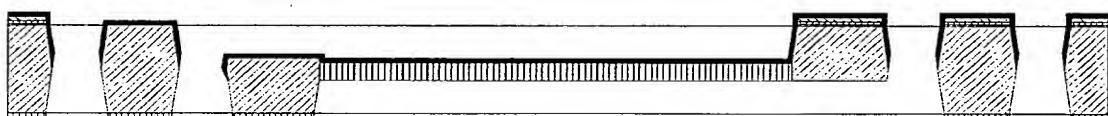
	Silicon Substrate		Silicon Dioxide
	Silicon Nitride		Flow Channel
	Porous Silicon		Photoresist

Figure 29



	Silicon Substrate		Silicon Dioxide
	Silicon Nitride		Flow Channel
	Porous Silicon		Photoresist

Figure 30



	Silicon Substrate		Silicon Dioxide
	Silicon Nitride		Flow Channel
	Porous Silicon		Ti-Al ₂ u

Figure 31

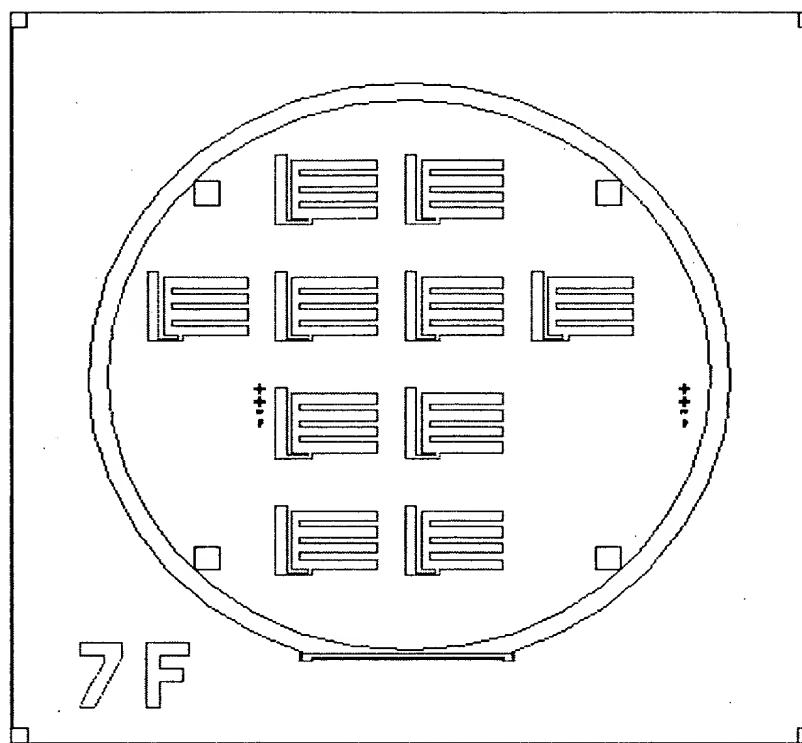


Figure 32A

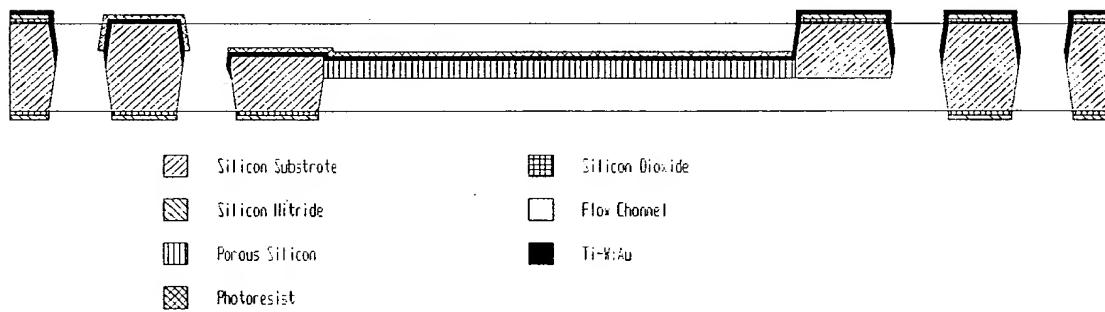
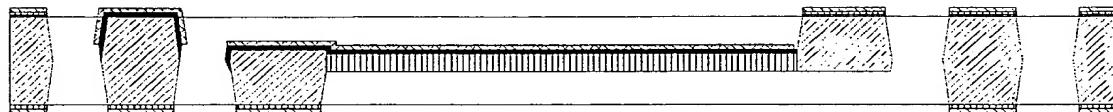
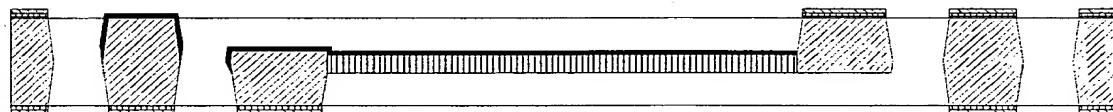


Figure 32B



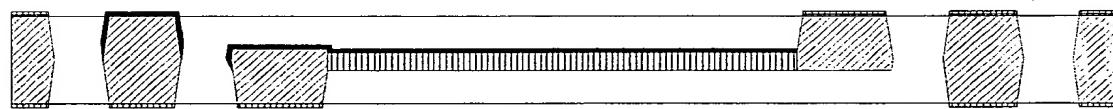
[diagonal hatching]	Silicon Substrate	[cross-hatching]	Silicon Dioxide
[cross-hatching]	Silicon Nitride	[white]	Flow Channel
[vertical hatching]	Porous Silicon	[solid black]	Ti-WAu
[wavy hatching]	Photoresist		

Figure 33



[diagonal hatching]	Silicon Substrate	[cross-hatching]	Silicon Dioxide
[cross-hatching]	Silicon Nitride	[white]	Flow Channel
[vertical hatching]	Porous Silicon	[solid black]	Ti-WAu
[wavy hatching]	Photoresist		

Figure 34



[diagonal hatching]	Silicon Substrate	[cross-hatching]	Silicon Dioxide
[vertical hatching]	Porous Silicon	[white]	Flow Channel
[solid black]	Ti-WAu		

Figure 35

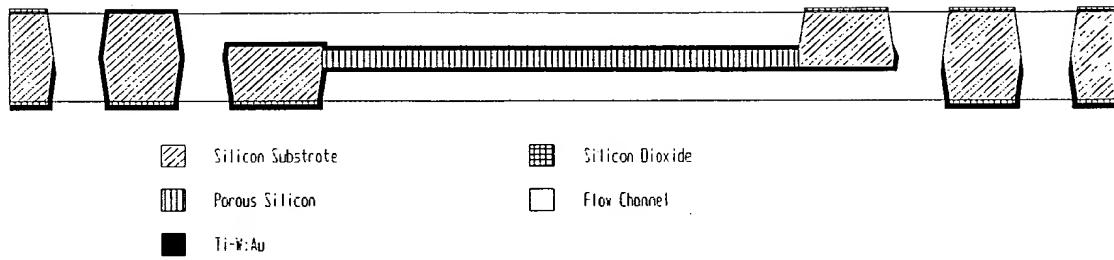


Figure 36

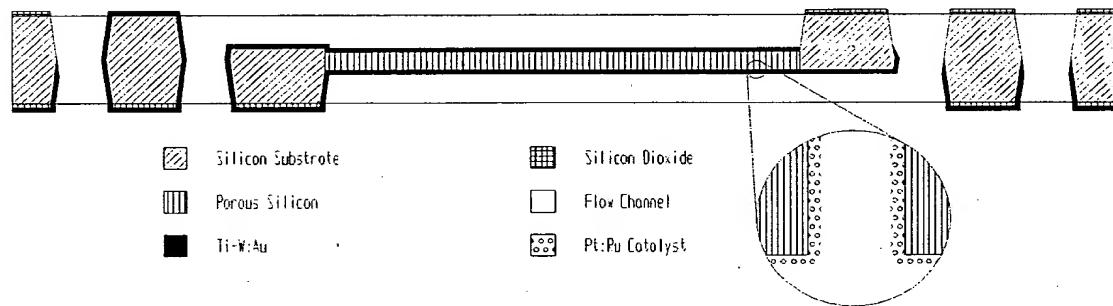


Figure 37

406746 " 38266860

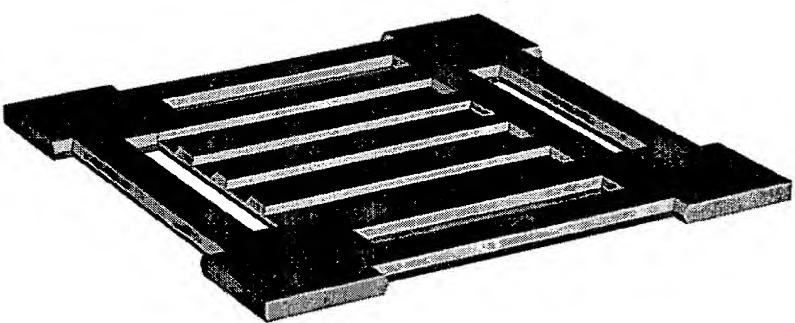


Figure 38A

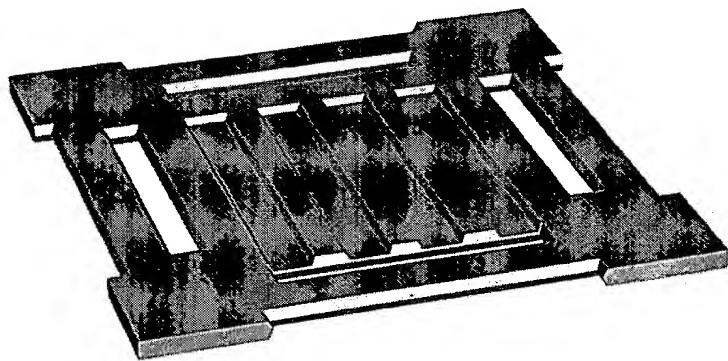
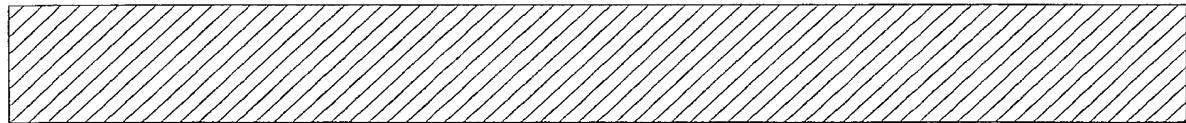
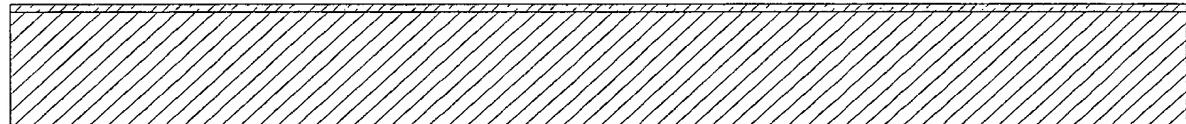


Figure 38B



■ Silicon Substrate

Figure 39



■ Silicon Substrate

■ Silicon Nitride

Figure 40

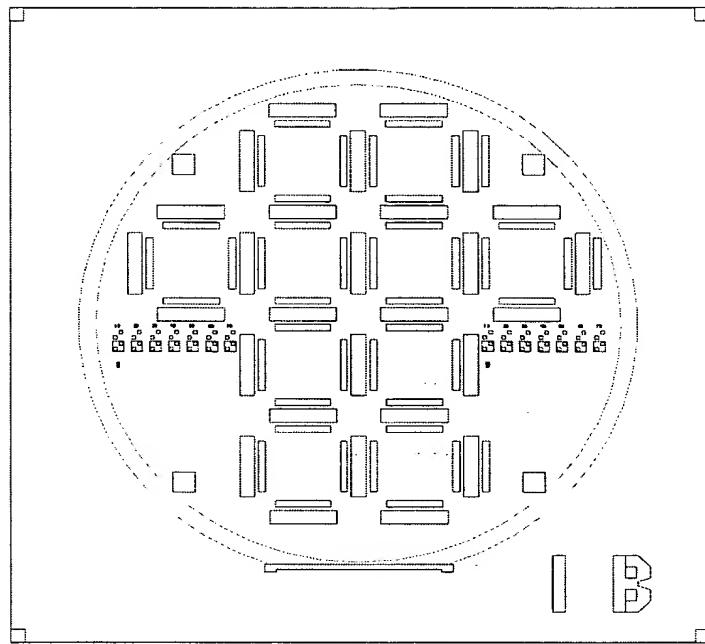
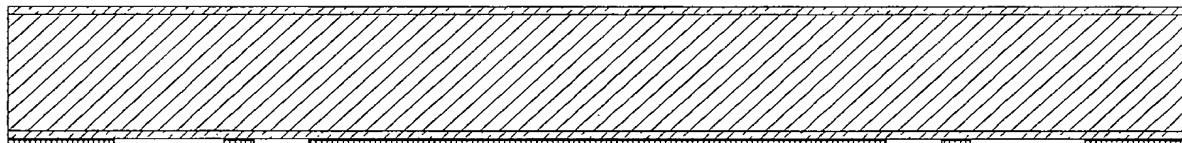
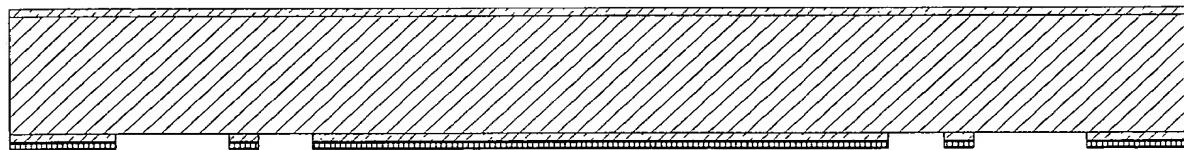


Figure 41A



- Silicon Substrate
- Silicon Nitride
- Photo Resists

Figure 41B

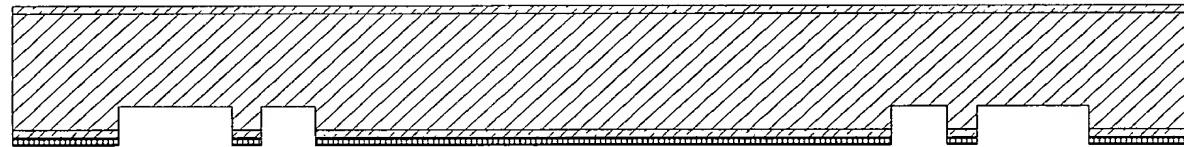


■ Silicon Substrate

■ Silicon Nitride

■ Photo Resists

Figure 42

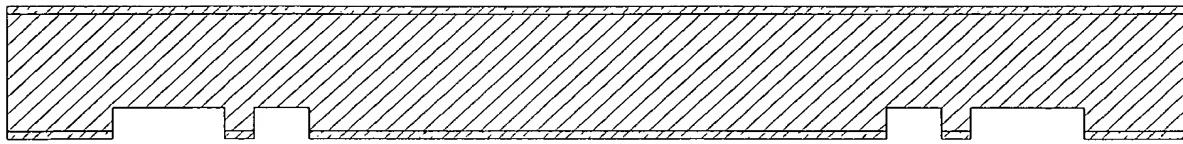


■ Silicon Substrate

■ Silicon Nitride

■ Photo Resists

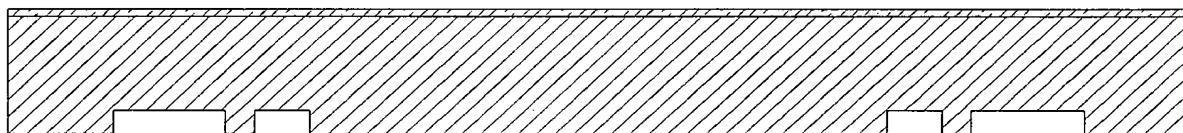
Figure 43



□ Silicon Substrate

▨ Silicon Nitride

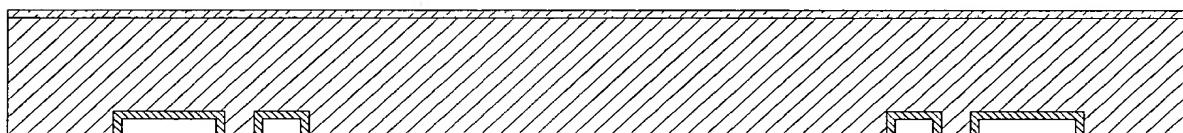
Figure 44



▨ Silicon Substrate

▨ Silicon Nitride

Figure 45



▨ Silicon Substrate

▨ Silicon Nitride

▨ Aluminum Contact

Figure 46

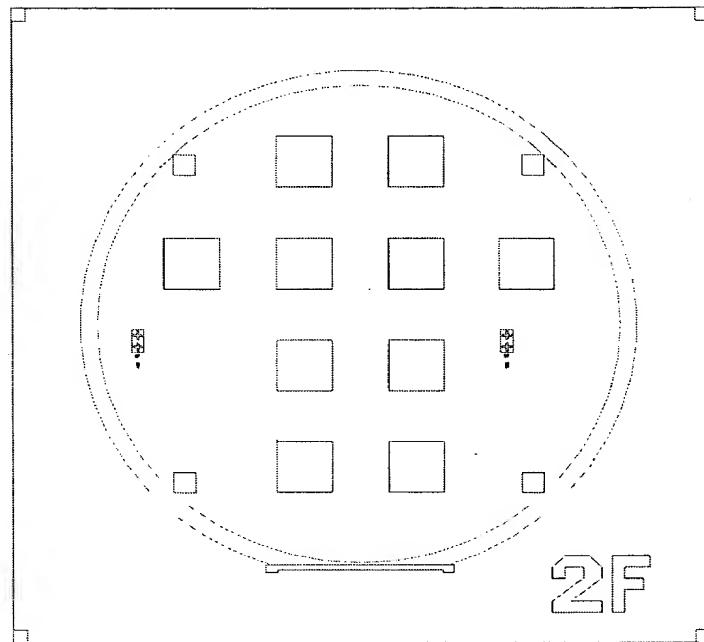
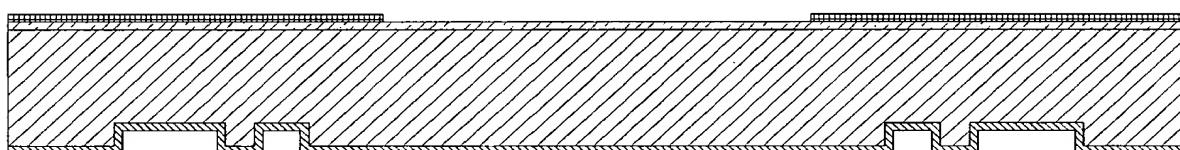
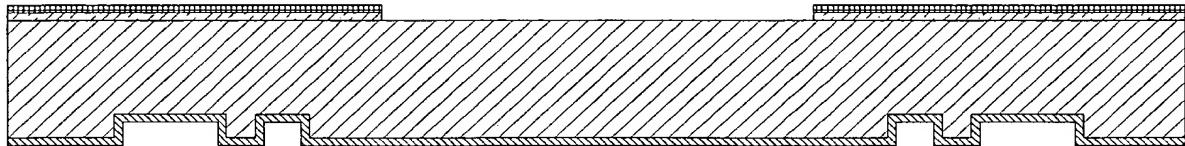


Figure 47A



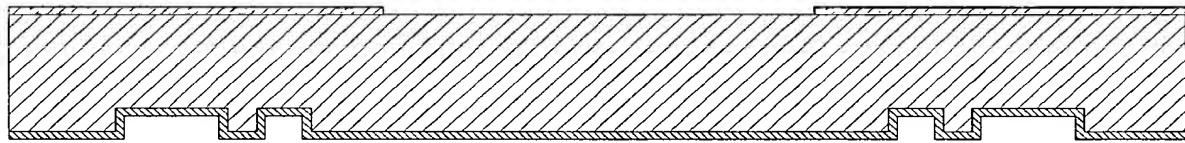
- | | | | |
|--|-------------------|--|---------------|
| | Silicon Substrate | | Photo Resists |
| | Silicon Nitride | | |
| | Aluminum Contact | | |

Figure 47B



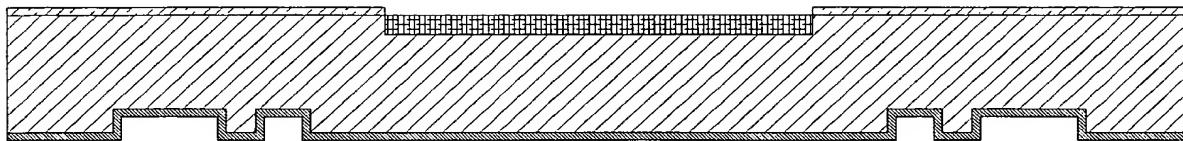
- Silicon Substrate
- ▨ Photo Resists
- ▨ Silicon Nitride
- ▨ Aluminum Contact

Figure 48



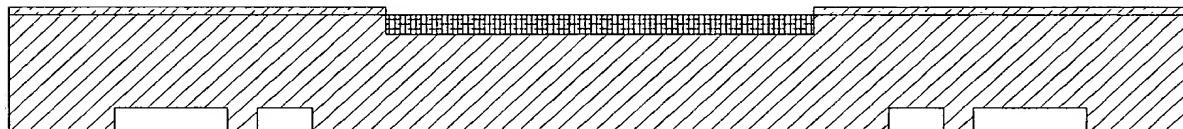
- Silicon Substrate
- ▨ Silicon Nitride
- ▨ Aluminum Contact

Figure 49



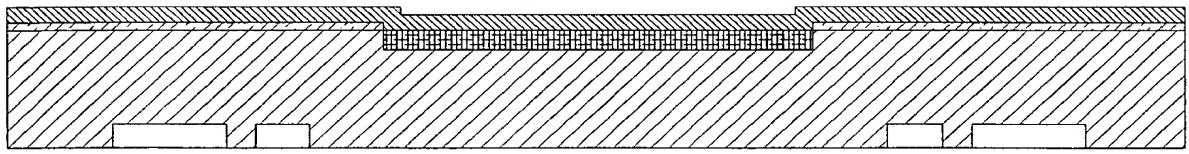
- Silicon Substrate
- Silicon Nitride
- Porous Silicon
- Aluminum Contact

Figure 50



- Silicon Substrate
- Silicon Nitride
- Porous Silicon
- Aluminum Contact

Figure 51



Silicon Substrate

Aluminum Contact

Silicon Nitride

Porous Silicon

Figure 52

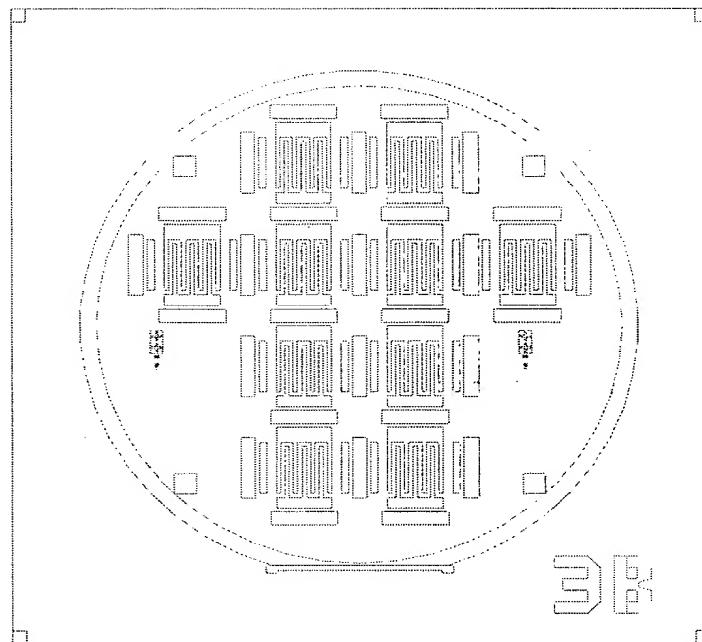
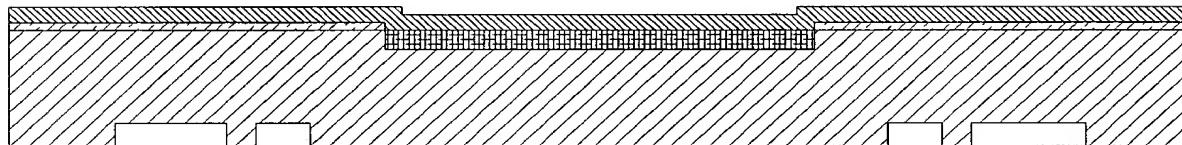


Figure 53A



Silicon Substrate

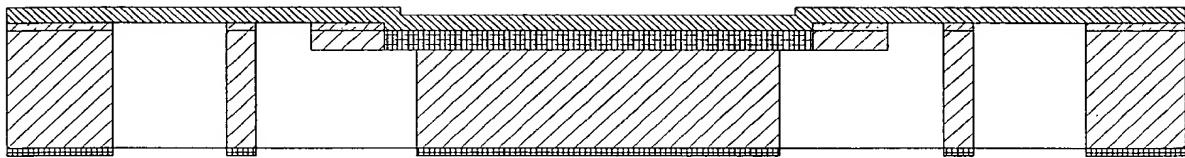
Silicon Nitride

Photo Resists

Aluminum Contact

Porous Silicon

Figure 53B



■ Silicon Substrate

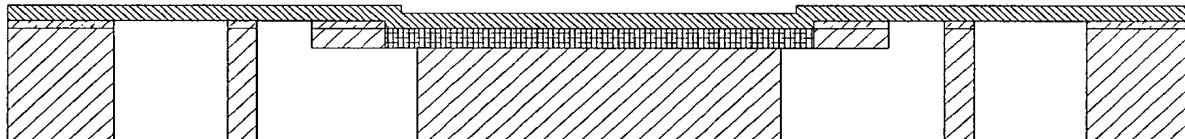
■ Silicon Nitride

■ Photo Resists

■ Aluminum Contact

■ Porous Silicon

Figure 54



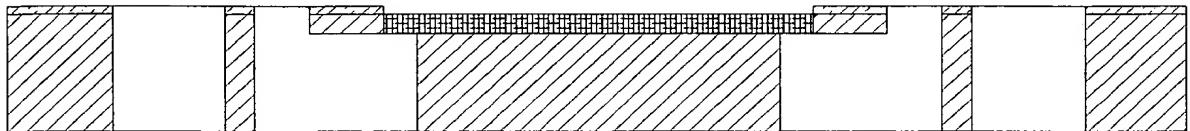
■ Silicon Substrate

■ Silicon Nitride

■ Aluminum Contact

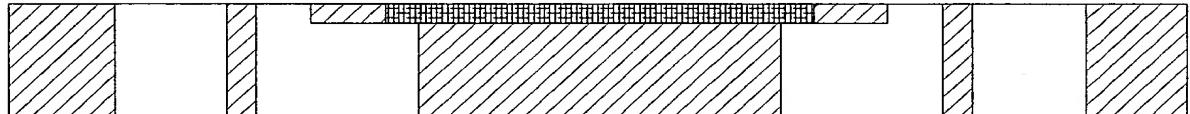
■ Porous Silicon

Figure 55



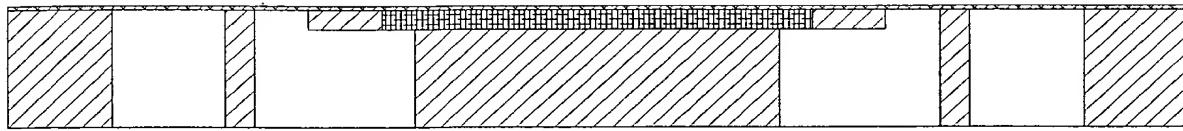
Silicon Substrate Porous Silicon
 Silicon Nitride

Figure 56



Silicon Substrate
 Porous Silicon

Figure 57



Silicon Substrate

Porous Silicon

Metal Seed Layer

Figure 58

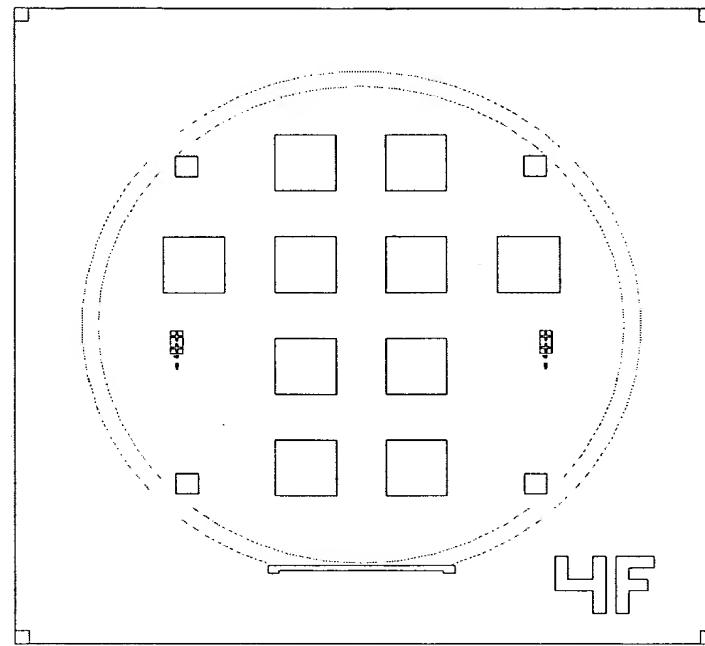
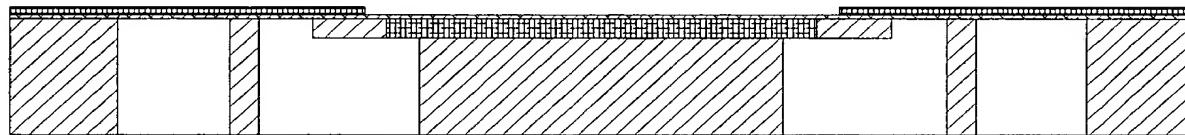


Figure 59A



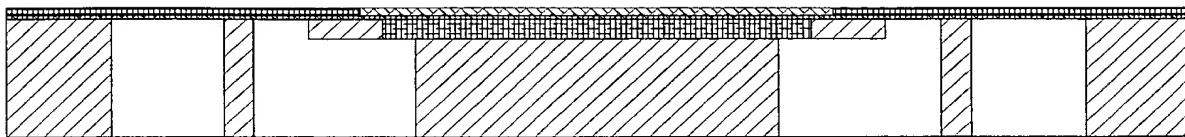
Silicon Substrate

Photo Resists

Metal Seed Layer

Porous Silicon

Figure 59B



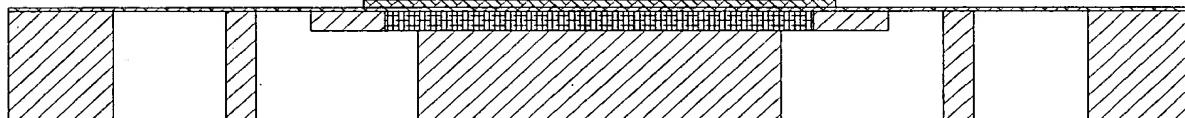
■ Silicon Substrate

■ Photo Resists

■ Pd Layer

■ Porous Silicon

Figure 60



■ Silicon Substrate

■ Porous Silicon

■ Pd Layer

Figure 61

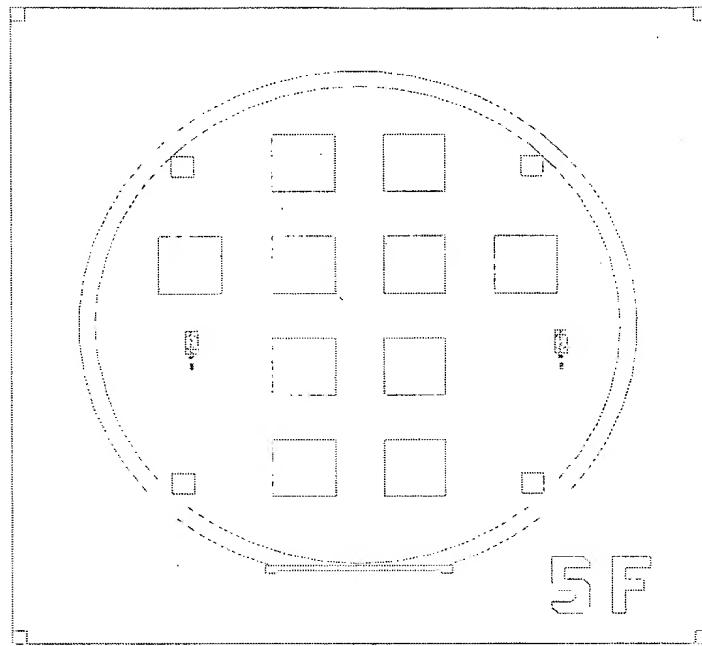
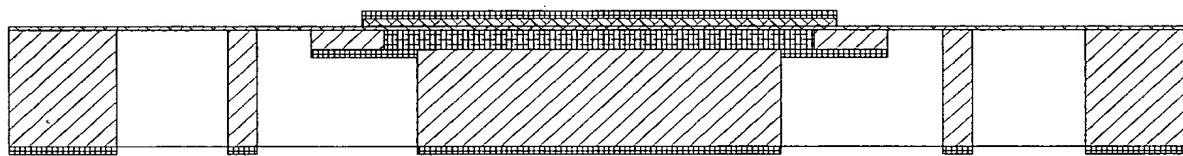


Figure 62A



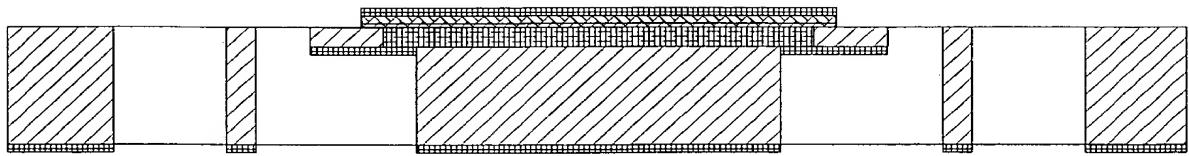
Silicon Substrate

Porous Silicon

Pd Layer

Photo Resists

Figure 62B



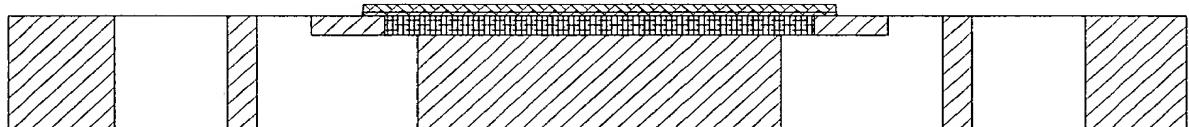
■ Silicon Substrate

■ Porous Silicon

■ Pd Layer

■ Photo Resists

Figure 63



■ Silicon Substrate

■ Porous Silicon

■ Pd Layer

Figure 64

606740 " 982000

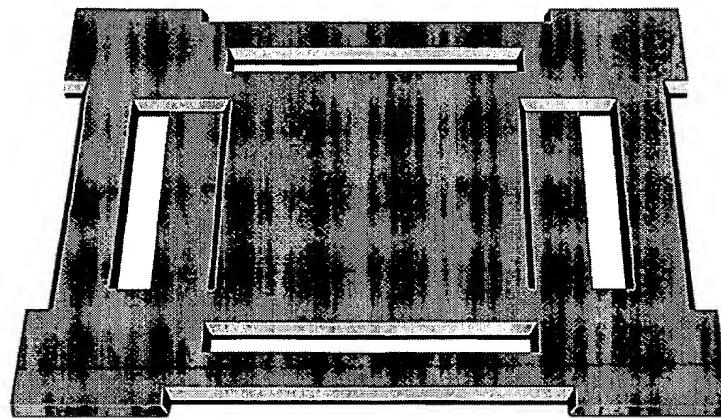


Fig. 65A

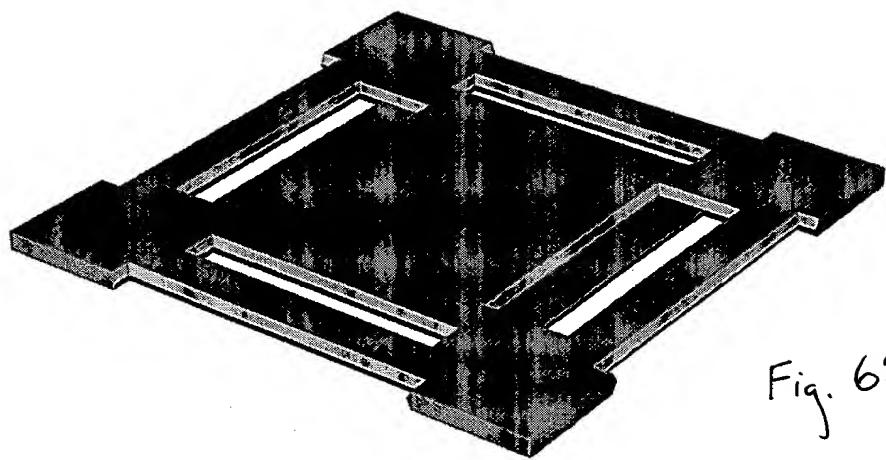


Fig. 65B

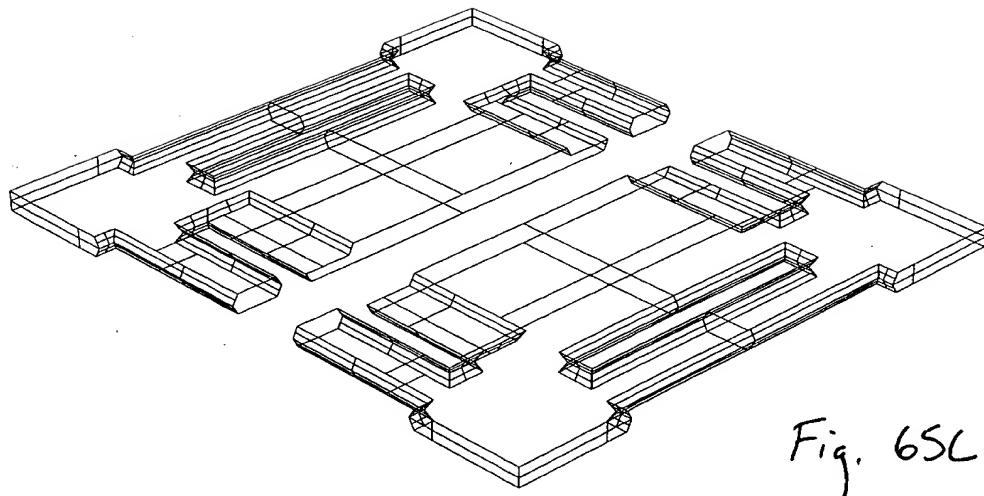


Fig. 65C